CENTRAL INTELLIGENCE AGENCY

INFORMATION REPORT

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COUNTRY	USSR (Moscow Oblast)	REPORT	[redacted]
SUBJECT	Development of Direction Finders at MGB Unit 568 K in Kuchino	DATE DISTR.	10 August 1955
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1. The institute at Kuchino (N 55-45, E 37-58) was officially named Military Unit 568 K, and had the function of developing and building direction finders and other equipment for radio control. It was placed under Military Unit 568 of the MGB in Moscow on Malaya Lubyanka ulitsa, which controlled radio communications. The institute in Kuchino was located on the eastern shore of the Pekhorka River. It consisted of two groups of buildings which were situated on both sides of the railroad line to Gorkiy. A third building was erected in 1950 - 1951, because of the lack of space in Area I and Area II, and because of the wish to establish a production program independent of the plant in Balashikha (N 55-49, E 37-57). In April 1952, engineers and mechanics were already working in Area III, even though it was not yet completed. The people of the village called Area II the radio station. There was no increase in personnel while the Germans worked at the institute. [redacted] 25X1

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2. According to Colonel Paramonov (fnu), Military Unit 568 existed during the war, supposedly in Kuchino. Near Areas I and II, there were the remains of old aerial installations. An old underground cable ran three kilometers north from Area I to a former short wave dipole installation, apparently destroyed by bombs. Immediately adjacent to Area II, there were the concrete foundations and ground aerials of old antenna towers; the building still showed the insulators for antenna lead-ins.

3. Big and important jobs which required special and unusually large machines were performed by a factory in Balashikha. The German engineers at the

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institute knew of no other institute which worked with Military Unit 568; in fact, they were under the impression that the institute wished to conceal their activities. No visitors were allowed in Area II. It was difficult to obtain modern components, such as crystal diodes, although even the Germans knew that they were made by Dr. Schloemilch in Fryazino. When the proposal was made to Colonel Paramonov to obtain the urgently needed detectors from that factory in Fryazino, he had great misgivings as to how he could justify his knowledge that the factory produces the detectors, the more so since the Fryazino factory was also not to be informed about the production of the Kuchino institute.

4. Krug Direction Finder

The main job of the German engineers employed in Area II until summer 1950 was the construction of a giant direction finder. The project was known under the Soviet designation Krug, that is, circle. The purpose of the equipment was the direction-finding of stations in the 2 - 20 megacycle range. The antenna installation could also be used for the audio direction finding method, known as Wullenwever, as well as for the visual direction finding method known as Brommy. For both methods, various compensators, sum-and difference computers, were furnished. The Soviets knew that the antenna could also be used for the radiation of beams.

5. On orders of the Army, an installation of the Krug type was erected in Germany by the Telefunken firm during the war; it operated only in sectors in the directions of England and Denmark. When Soviet Colonel Blinderman was informed of this installation after the war, he summoned several of the designers and ordered the Oberspreewerk (OSW), Berlin, to design and develop a similar apparatus. Dr. Karl Steimel, director of the OSW at that time, entrusted Dr. Paul Kotowski with the designing of the direction finder; under him worked Dr. Erich Rheinhold Paul Schuettloeffel on the development of the antenna. His testing ground was the old antenna testing ground near the Beelitz radio station. In October 1946, the design of the direction finder was completed; some parts and apparatus were already built or were under construction. Soviet Lieutenant Colonel Khazin supervised the work.

6. On 22 October 1946, the whole staff was brought to Moscow. From there, Dr. Kotowski, Dr. Schuettloeffel, and Mr. Eckhardt Rehbock were sent to Leningrad; the engineers Mr. Fegert (fnu), Mr. Hubert Preissner, Mr. Oertel (fnu), and Mr. Riedel (fnu); and the designers Mr. Oertel (not engineer Oertel), Mr. Krueger (fnu), and possibly two or three more, were transferred to Gorkiy. The head of the laboratory, Mr. Braendle (fnu), a Swiss, was not transferred. On 31 December 1946, Dr. Schuettloeffel, Rehbock, and Preissner were ordered to join Military Unit 568 in Moscow. They arrived at Planernaya near Khimki and were billeted in Novogorsk, a summer resort with 104 quarters (dacha) for ministers and other high officials. There the three Germans had to write various reports about the Krug direction finder. On 5 May 1947, they were transferred to Kuchino.

7. In August 1947, the chief engineer of the institute at Kuchino, Vasilev (fnu) called a meeting to discuss the Krug direction finder, at which the three above-named German engineers and 12-15 Soviet engineers or officers in civilian clothes participated. Lieutenant Colonel Khazin spoke about the erection of a giant direction finder, as ordered by Colonel Blinderman. All data supplied by the Germans as well as their own reports were available. The purpose was to make sure that there would be no mistakes in the design, as the size of the installation demanded much time and money. After a discussion, it was resolved to build the installation according to the original designs of the OSW. A Soviet engineer, who appeared to have a good knowledge

in building antennas, proposed to erect an antenna known as the Faltdipole antenna instead of a cage antenna (Reusenantenna). The proposal was rejected; likewise a proposal made by Colonel Paramonov, who suggested the erection of several small direction finders in place of a large one. The Germans did not participate in the discussion. At the first meeting, the German engineers were told to make a detailed report about the number of engineers, technicians, mechanics, and laborers needed and time required. They asked for approximately 100 men for a period of three months. Their report was based on the OSW/Berlin plan, according to which the installation was to be completed in three months with 30 men employed. The Germans, however, were allowed only three Soviet technicians.

8. The installation consisted of 40 antennas, equally distributed around a circle with a 60 meter radius. On a concentric circle with a 55.5 meter radius, a reflector, consisting of numerous vertical single wires, was erected. In order to operate the wide frequency range, wide band antennas were built as vertical cage antennas, ending at the bottom in a point. The base resistance of the individual antennas amounted to approximately 70 ohms. According to earlier calculations by Telefunken, the antennas were to have a counterpoise for the widening of the band width which would act as a capacitance and which was to be connected through a resistance to the center of the grid. Dr. ScUNCODEDffel had started tests in Beelitz in 1946, to determine the most favorable size of this counterpoise capacitance, but the results of his measurements were not yet known when he was deported to the USSR. He, therefore, applied for a testing area in which he could continue his tests, but this request was denied because of the lack of time and space.

9. The antennas were built and tested by Soviet engineers without consulting the German engineers, but on the basis of the German data. The Germans did not see the antennas before they were erected. When an antenna measuring apparatus was sent from OSW to Kuchino, the Soviet officers refused to accept it, because they said the accuracy of measurement was poor. The apparatus operated according to the substitution method. The Soviet engineers, however, to the surprise of the Germans, used a 30 meter-long test line, which consisted of a 30 meter-long boardwalk, covered with sheet iron, over which a measuring wire was stretched at such a distance that a surge impedance of 70 ohms resulted. The Soviet engineers, then, proceeded along the test line with a portable tube voltmeter to find the maximum and minimum voltages. Thus, they demonstrated how they were able to help themselves, even though the method was unusual. The antenna reflector was connected with a ground network, which reached the center of the installation and was electrically connected with the ground water. Forty coaxial cables connected the bases of the forty antennas with the centrally located broadcasting station.

10. The compensator combined twelve antennas bearing toward the transmitter into two groups; they were used to determine the direction of the transmitter. The compensator compensated for the difference of the transit times caused by the circular arrangement of the antennas in special transit time circuits. The transit time circuits were designed in such a way that the transit times were compensated when the waves came in at a 30 degree vertical angle of incidence.

11. The audio direction finding compensator had already been constructed in OSW, designed after a Telefunken model. Fifty percent of the parts were completed and sent to Kuchino. There, the compensator was constructed in Area I according to the data and designs of the German engineers. The rotor was continuously variable from 0 - 360 degrees. It was repolished in Balashikha, then electrically examined and balanced by Preissner, and subsequently taken away by a truck. A sum and difference computer was of a primitive mechanical design, but electrically usable for the wave band of 3 to 10 megacycles and was shipped from OSW to Kuchino. Preissner expanded the range from 2 to 20 megacycles and mechanically redesigned the sum and difference computer.

12. The rotor of the compensator for visual direction finding was a switch, which could be switched in steps of nine degrees. This compensator was also designed in OSW, but only a few mechanical parts were completed. The construction was examined by the Soviet engineers and altered with the cooperation of the German engineers. The production was the same as the one of the audio direction finding compensator. An electrical breadboard layout of the sum and difference computer for visual direction finding was built in OSW before the German engineers were removed to the USSR and was shipped to them afterwards. This apparatus apparently was intentionally misconstructed; Preissner, then constructed five usable ones.

13. For audio direction finding, two captured receivers of the Koeln type were used in laboratory tests; later, the Soviet engineers procured another commercial short-wave receiver which was larger in size and had less sensitivity and image suppression than the Koeln type. [redacted] 25X1
[redacted] Receivers for audio direction finding were not 25X1
developed in Kuchino. For a visual receiver, a two-channel receiver was needed and the procurement of a Watson Watt receiver was discussed. Both channels would have to show the same amplifying factor and the same transit time. At the output of the receiver was a Braun tube, the deflection plates of which were connected to both channels. If the received signal does not come in precisely from the front, but obliquely, the difference of phase of both signals causes a rotation of the line on the screen, which shows the bearing. If the angle is larger than 4.5 degrees, the compensator is switched up nine degrees.

14. Engineer Rehbock continued the research begun in OSW on the individual parts of the receiver in summer 1947. Later on, Khazin took over the technical testing research of these parts and transferred the tests to his own laboratory in Area I. He also ordered the removal of the Soviet engineer employed by Rehbock, to his laboratory. Rehbock, therefore, had only to work out analytical tests and supervise Khazin's doctor's dissertation. Khazin came less and less to Area II and finally stayed away altogether. The German engineers knew nothing about the completion of the visual direction finding receiver. Braun tubes with luminous screens were proposed for far direction finding of short-time impulses.

15. In July and August 1947, Dr. Schuettloeffel and engineer Preissner were ordered to inspect, with Colonel Blinderman and Lieutenant Colonel Khazin, a site proposed by Military Unit 568. The site was located approximately 15 kilometers north of Moscow. Dr. Schuettloeffel rejected the site, because the ground was not level and was covered with trees which could not be removed. A few weeks later, the German engineers were ordered to inspect a site approximately 33 kilometers east of Moscow near the Moscow-Gorkiy railroad track. Dr. Schuettloeffel found this site more satisfactory, but he expressed some doubts, because of the short distance to the track. However, before Military Unit 568 had made a decision, the Air Force had seized the place, Khazin said.

16. Subsequently, a third area, approximately 25 kilometers north of Moscow, was inspected and found satisfactory. On the way, the engineers came to a road guarded by military sentries. When they turned into another road leading north, their car and their papers were again examined. Fifteen minutes after they had proceeded once more, they reached a forest, closed in by a board fence which they had to by-pass on the east side. After another 20 minute drive, they reached an open field which was the site to be inspected. When the interpreter was asked about the purpose of the military guards, the engineers were told that this was the summer residence of Stalin. Two weeks later, the two German engineers and a Soviet engineer returned to measure the earth conductivity, the slope of the ground, and the distance to the nearest trees. The German engineers were convinced that the antenna was installed on that site.

17. In summer 1951, Preissner, while taking a walk, accidentally discovered a complete giant direction-finding installation approximately three kilometers southeast of Area II. This installation had never been mentioned by the Soviets. From a distance of 100 meters behind a fence, Preissner could see the cage antenna, the reflector, and a small house with a pointed roof, 8 x 6 meters in size and 4 meters high. A newly filled up cable trench led from the installation to a little stone house, about 300 meters away, and from there to a transformer station located near Area II. A piece of a cable found near the cable trench had a diameter of about three centimeters, including the armor. It was a low tension, alternating current cable without a ground conductor; the wire gauge was five millimeters. The transformer station had a special 1.5 kilovolt transformer for the direction finder, which made the power supply station independent of the power supply from the town. The German engineers recalled that a bus with engineers from Area I had passed Area II several times heading for the transformer station. One day Dr. Schuettloeffel said to Colonel Paramonov, the head of Area II: "Colonel, we have worked on the installation for several years, but we do not know that it works satisfactorily". To which Paramonov answered: "Yes, the installation works; however, we have only exact test readings from the Far East". To another question: "How about direction errors of American stations at different seasons?", Paramonov said: "There seems to be small direction errors in different seasons, but I have no exact information".

Portable Direction Finders

18. After the German engineers had completed their work on the Krug direction finder, they repeatedly asked Colonel Zhelezov for repatriation. When Zhelezov finally called on them, he did not mention their release, but declared that he had a new and interesting assignment for them. They were asked to look for unknown radio communications in the wave range between three centimeters and 500 centimeters within cities. The Germans declared immediately that, because of the quasi-optical behavior of these waves, it would be almost impossible to accomplish an exact direction finding, since buildings hinder transmission and direction finding errors would result through reflection. Zhelezov answered that he knew this, but that this was just what he wished the Germans to think over and come up with adequate suggestions. When he returned a few days later, the German engineers reported that the aforementioned difficulties could be greatly eliminated through the application of as many portable direction finders as it is possible to use. After the determination of the approximate position, the exact position can then be determinated by these portable direction finders. No mention was made about installing these apparatus in vehicles, nor were there any corresponding tests or installations performed. The German engineers were never consulted about audio receiving sets, receiving systems for the one centimeter wave range, or about the longest wave direction finding.

19. Following this meeting, Colonel Paramonov was directed to discuss with the German engineers the details concerning the construction of the necessary apparatus. The apparatus were then marked by the Soviets as follows:

Type	Wave Range
DEZI 2 - 1 C	3 cm - 9 cm
DEZI 2 - 1 D	9 cm - 50 cm
PMD 1	50 cm - 100 cm
PMD 2	100 cm - 200 cm
PMD 3	200 cm - 500 cm

These designations were also engraved on the front data plates. The antennas of all five apparatus were developed by Dr. Schuettloeffel and the receivers for the DEZI 2 - 1 C and DEZI 2 - 1 D by Preissner. The receivers for PMD 1 to PMD 3 had not been completed when the German engineers left in April 1952, since the Soviets had constructed those receivers designed by Rehbock in such a way that they were unusable.

20. Colonel Paramonov also charged Preissner with the supervision of the construction of the DEZI 2 apparatus. For that purpose, a supervising constructor and two assistant constructors were assigned to him. These constructors were employed only for the construction of certain parts and they had no knowledge of the construction of the entire apparatus; they also had only little experience in precise mechanical work, due. fabricating gear racks directly from plans of gear-wheel transmissions. A workshop furnished with two lathes and two drilling machines, as well as five mechanics was provided for them. The parabolic reflectors were manufactured in Balashikha. A large one meter radius reflector was made by a foreign plant, as was the silver coating of several individual parts. The DEZI 2 - 1 C and DEZI 2 - 1 D were constructed to be used as laboratory standards and as acceptance standards; the designs for their reproduction were on hand. In October 1951, a list of materials required for the production of ten to twenty apparatus was prepared, but the German engineers never learned whether the materials were actually delivered or not.

21. In October and November 1951, two or three Soviet engineers of Military Unit 568 took over the two DEZI apparatus. For that purpose, a one meter radius parabolic reflector was mounted on a roof on Area II; the transmitter stood inside the building. The Soviet engineers then tested the direction finding accuracy from a one kilometer and two kilometers distance; they also made tests from the woods. They declared that the sensitivity of the apparatus was too low and demanded to know why no heterodyne receivers were built, to which the Germans answered that they had no order to do so. In about mid-1951, Soviet interest in portable direction finders declined, because they became more interested in relay stations.

Description of the DEZI 2 - 1 C and DEZI 2 - 1 D

22. The receivers of the DEZI apparatus are adjusted for the reception of unmodulated, amplitude modulated, frequency modulated, and keyed transmitters. A vibrator with approximately 350 cycles provided, after rectification, for the reception of unmodulated and frequency modulated carriers. Amplitude modulated transmitters can by heard through headphones. A 1.2 to 1.8 millivolt input voltage is necessary for the full scale reading of the indicator instruments. The three-stage low-frequency amplifier had a transformer input and supplied an amplification of approximately 100,000. The amplifier was built as a rack-mounted equipment and, therefore, could be used for both apparatus. It was equipped with miniature tubes and in the output stage with two commercial battery tubes. A 1.5 volt dry-cell battery and a 120 volt anode battery operated continuously from six to eight hours. The reception of vertically as well as horizontally polarized waves was accomplished by rotating the electromagnetic horn and/or the dipole heads. The DEZI 2 - 1 D apparatus had two interchangeable dipole heads for the 9 to 20, ~~and~~ 20 to 25 centimeter wave ranges. The receiver of this apparatus weighed 16 to 20 kilograms, and the stand, including the parabolic reflector, approximately 40 kilograms. For shipping, the apparatus could be taken apart and packed in a protective covering of brown, watertight canvas. It was also planned to camouflage the reflector while it was in operation with a non-transparent synthetic sheet; such a covering, however, was not obtainable.

Description of the PMD 1, PMD 2, and PMD 3 Apparatus

23. The receivers of the direction finders PMD 1, 2, and 3 were set up for amplitude and frequency modulation. The sensitivity of the PMD 3 receiver was several microvolts; the other two receivers had not yet been tested. The reception could be heard by means of radio or telephone lines; the field intensity was registered by an instrument. A six volt storage battery and a 300 volt anode battery supplied the power, and supposedly weighed approximately 30 kilograms. The input and oscillator circuits of the apparatus PMD 1 were resonance

cavities and had an intermediate frequency of approximately 100 megacycles after the first heterodyning, and 10.6 megacycles after the second. FMD 2 had 50 megacycles after the first heterodyning and 10.6 megacycles after the second. Two dipoles at a 45 degree angle with the horizontal were used as direction finder antennas, with a spacing of 0.60 meter, one meter, and approximately two meters for all three apparatus. The antenna system could be used in either of two ways: maximum or minimum readings. The antenna for the FMD 1 was provided with a reflector screen which was behind the dipoles. The identification of signals from the side was made possible with the other two apparatus by a lengthening of the conducting cable to one of the dipoles. To camouflage the installation during the operation period, as requested, it was planned to install the antenna for the FMD 1 in a large plywood box of approximately 100 x 60 x 35 centimeters. No practical solution, however, for camouflaging the other apparatus could be found.

Relay Stations

24. From the beginning of 1950 until the end of 1951, the German engineers worked on the development of three very high frequency radio stations and they named them relay stations 1, 2, and 3. The Soviet designation Komet was given to relay station No. 1. The German engineers did not build small transmitters without receiver aerials.

Relay Station No. 1

25. Early in 1950, Colonel Paramonov ordered Dr. Schuettloeffel to design a wide-band dipole antenna which could be sewed into the clothes of a person. At first no reason was given to him, but after repeated inquiries he received a small two-way radio set, which was similar to a cartridge pouch and could be fastened to a belt. He was also cautioned not to mention this development even to his German colleagues; later, however, they too worked on the project. This dipole antenna, developed by Dr. Schuettloeffel, was designed as a double V antenna, in order to attain the necessary band width. The upper parts of the V reached from the back of the belt to the shoulders, the lower parts of the V reached into the pants. Preissner had also developed a small three-coil transformer. At first, the Soviets had used only a single dipole without a three-coil transformer. The new construction of the antenna increased the range radius of the station. The Soviets called the prototype of this apparatus Komet I, a later model with higher power, Komet S. The Germans were left in ignorance about Soviet production and further designs.

26. The Komet apparatus could be tuned into a stable frequency between 87 and 103 megacycles. The transmitter was quartz-stabilized; that is, an eight megacycle quartz crystal was excited with the third harmonic, and this frequency was doubled in two stages so that a final frequency of approximately 96 cycles resulted. The output transmission of the Komet I was approximately 40 milliwatts, and of the Komet S, approximately 130 milliwatts. The receiver had an aperiodic first stage, a superregenerative rectifier, and two low-frequency stages. The receiving tubes were miniature tubes which had an approximate eight millimeter radius and a 35 millimeter length, but were without a base. The transmitting tubes of the Komet S were miniature tubes with an 18 millimeter radius and a 55 millimeter length, but with a base. The microphone, having an approximate 22 millimeter radius, could be fastened to the coat; the earphones, made as flat-type crystal receivers, could be worn under the coat, on the shoulder near the ear. The apparatus, built to fit the body, was 150 millimeters wide, 70 millimeters high, and 35 millimeters deep. Connected to it and attached to the belt were, to the right, an anode battery, and to the left a storage battery. Both batteries were 70 millimeters wide. All parts were covered with an uniformly colored canvas. The sewed-in antenna could be connected with the transmitter by means of a double-pole plug.

Relay Station No. 2

27. While Dr. Schuettloeffel was engaged in the development of a dipole antenna for the Komet, engineer Rehbock received an order from an engineer of Area I to develop a portable transceiver. It appeared that this apparatus had already been worked on in Area I. Rehbock received such concrete data, that, after a few calculations, he could begin with the development and construction of the portable set. While working on it, he was told that his set should be able to receive the signal of the Komet and should transmit it amplified to an adjacent frequency. The order was urgent. The receiver was a superregenerative receiver and was more sensitive than the one of the Komet; its frequency range was 87 - 103 megacycles. The output power of the transmitter was approximately three watts; the distance between the transmitting and receiving frequency was 6.5 megacycles. Since the receiver and the transmitter were to operate on the same antenna, it was necessary to develop a transceiver filter. The power equipment, a six volt storage battery and a 300 volt anode battery, together with the apparatus was placed in an ordinary suitcase covered with a canvas. It was 60 x 45 x 20 centimeters in size. The transmitter automatically cut in when a receiving signal came in which made special handling unnecessary. Depending on the demands, the apparatus could operate continuously for approximately three hours. It was originally intended to use a built in box-antenna which was designed by Dr. Schuettloeffel. But because of its insufficient radiation property, a telescopic antenna was used later. It was also possible to connect it with a car antenna.

Relay Station No. 3

28. While Rehbock was still working on relay station No. 2, he received a new order to build relay station No. 3. This station was to have a supersensitive receiver and a powerful transmitter and was to be supplied by the power network. The frequency range was to be the same as that of the two other relay stations. The heterodyne receiver operated with an intermediate frequency of 10.6 megacycles and with frequency modulation. The input sensitivity was not tested. The transmitting power amounted to approximately ten watts. It was also possible to connect the station to a public circuit. A vertical half-wave dipole served as an antenna, its lower part was built as a seal connection to the dipole.

29. In November and December 1951, the Soviets tested the relay stations. Relay Station No. 1 was placed in Area I. A truck with relay station No. 2 circled around outside of Area II, in which the antenna of relay station No. 2 was mounted on its main building. The tests supposedly showed that ranges of five and ten kilometers were achieved.

Miscellaneous

30. According to Captain Cherkasov, one building in Area II was used as a prison. The German engineers repeatedly noticed that a truck, similar to a German police truck, would stop in front of that building. In summer 1951, packages marked Military Unit 533 or 522 were unloaded from such a truck. During summer 1950 or 1951, the German engineers heard the sound of German records coming from the building. When soon after, Cherkasov asked them if they knew a Dr. Splechtna they guessed that their colleague was put into this building. The Germans were of the opinion that those prisoners whom they never saw, were sent to different working places every day. Splechtna, who was set free at the beginning of 1953/1954, confirmed their opinion. He also told them that the head of the Military Unit, known by the nickname "The Iron One", was dismissed and was reduced from his rank of major general. Splechtna saw him working as a laborer in the Marfino concentration camp. He said that the general was not kept as a prisoner, he could live outside the camp, but his work was very hard and humiliating. Other inmates of the camp, for instance, would call to him: "Comrade Major General, fetch me the battery". After the fall of Beriya, several of the other Soviets, such as Dobrozhanskiy and Khazin, were arrested.

31. Not only were the Germans forbidden to enter Area I, but also most of the Soviets from Area II. Kacherin and Kazarinov had special identification cards to enter Area I. The German engineers were kept very much to themselves, even within Area II. After they arrived in Kuchino on 5 May 1947, they were allowed to begin to work only after their working places in the main building were so arranged that they could have no insight into the working places of the Soviets; they started to work on 1 July 1947. From spring until fall 1948, they worked in two rooms in their own quarters; from fall 1948 until spring 1950, they worked in a plywood shelter; and subsequently until their departure, in a house that was completely separated from all other buildings by a board fence.

32. The Soviet officers, as their chiefs, were reserved and carried on no private conversations. The opinion of the German engineers, with respect to their professional knowledge, was almost always accepted, but they were never praised. Only Colonel Paramonov would speak with them about private matters after he had discussed technical problems with them. The people of the town, in so far as they did not belong to the Military Unit, sought to contact the Germans, but they were not allowed to enter the German quarters. The German engineers, however, accepted invitations to the Soviet homes, but without the knowledge of the camp authorities. When the Soviet people found out that the Germans had been forced to come to Kuchino, they became more confident and showed their sympathy openly. During the visit of a Soviet driver from a macaroni factory, he asked a German engineer to repair his broadcast receiver, especially the short-wave parts. When the German told him that he too had difficulties in getting a static-free short-wave reception, the driver told him to listen at 0300 hours on short-wave when the British radio could be heard relatively well and static-free in the Russian language.

33. MGB Military Unit 568, Moscow, Malaya Lubyanka.

Chief: Colonel Blinderman

MGB Military Unit 568 K in Kuchino.

Chief: Colonel Zhelezov

Scientific advisers: Professor Cherdanzev and Chief Engineer Vasilev

Area I. Chief: Unknown
Colonel Birgelson
Lieutenant Colonel Khazin
Lieutenant Colonel Dobrozhanskiy and 150 engineers, technicians, laboratory workers, switch mechanics, turners, firemen, coil winders, seamstresses, clerk-typists, and charwomen. 25X1
25X1

Area II. Chief: Colonel Paramonov
German engineers: Dr. Schuettloeffel
Engineer Rehbock
Engineer Preissner

Soviet engineers: Captain Kacherin
Captain Cherkasov
Sr. Lieutenant Kozhin
Engineer Chaskov
Technician Ida Yakovina
Technician Anna (family name unknown) and on the average 20 employees, among them approximately two engineers, five turners, five switch mechanics, one fireman, two coil winders, two seamstresses, two drivers, two clerk-typists, and two charwomen.

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Legend to Location Sketch of Military Unit 568

1. Moscow-Gorkiy railroad line, electrified as far as Zheleznodorozhnyy. Suburban service every twenty minutes. A third track runs from Moscow to Zheleznodorozhnyy.

2. Former PW Camp No. 7804.

3. Kuchino village and station; approximately 2,000 inhabitants.

4. Small lake, part of the Pekhorka River.

5. Technological institute for hydraulic engineering, located in a former castle.

6. Area I of Military Unit 568 K.

7. Part of the village of Voyennyy Gorodok; belongs to Kuchino.

8. GUAS, a railroad settlement; part of Zheleznodorozhnyy.

9. Zheleznodorozhnyy village and station; approximately 5,000 inhabitants.

10. Railroad repair building; 120 x 20 x 8 meters.

11. Plant for muzzle-safe (muendungssichere) fuses for shells and bombs, which become armed only after discharge or dropping.

12. Airport, for small airplanes only.

13. Ceramic works; large building with furnaces for burning tiles and flagstones to be used for manufacturing cement blocs.

14. Area III of Military Unit 568 K; completed in 1951. Laboratories and workshops.

15. Summer homes for six officers' families.

16. Open-air transformer plant, 3000/220 volt, 150 kilowatt capacity, erected on wooden masts, supplying objects 14, 15, 18, and 21 on sketch. A six kilovolt line leads west to the open-air transformer Saltikovka near the Moscow-Gorkiy railroad line.

17. Orchard, containing 500 to 700 trees.

18. Area II of Military Unit 568 K; approximately three kilometers away from Area I.

19. Church, white stone building, 30 x 15 x 15 meters, visible from afar.

20. Three-phase-current cable.

21. Giant Krug direction finder.

22. Brick kiln with two to three kilns, tracks, and three ponds.

23. Fenino village; approximately 1,000 inhabitants.

24. Church, white stone building, 25 x 12 x 12 meters, hidden by trees.

25. Kolkhoz, six to eight buildings.

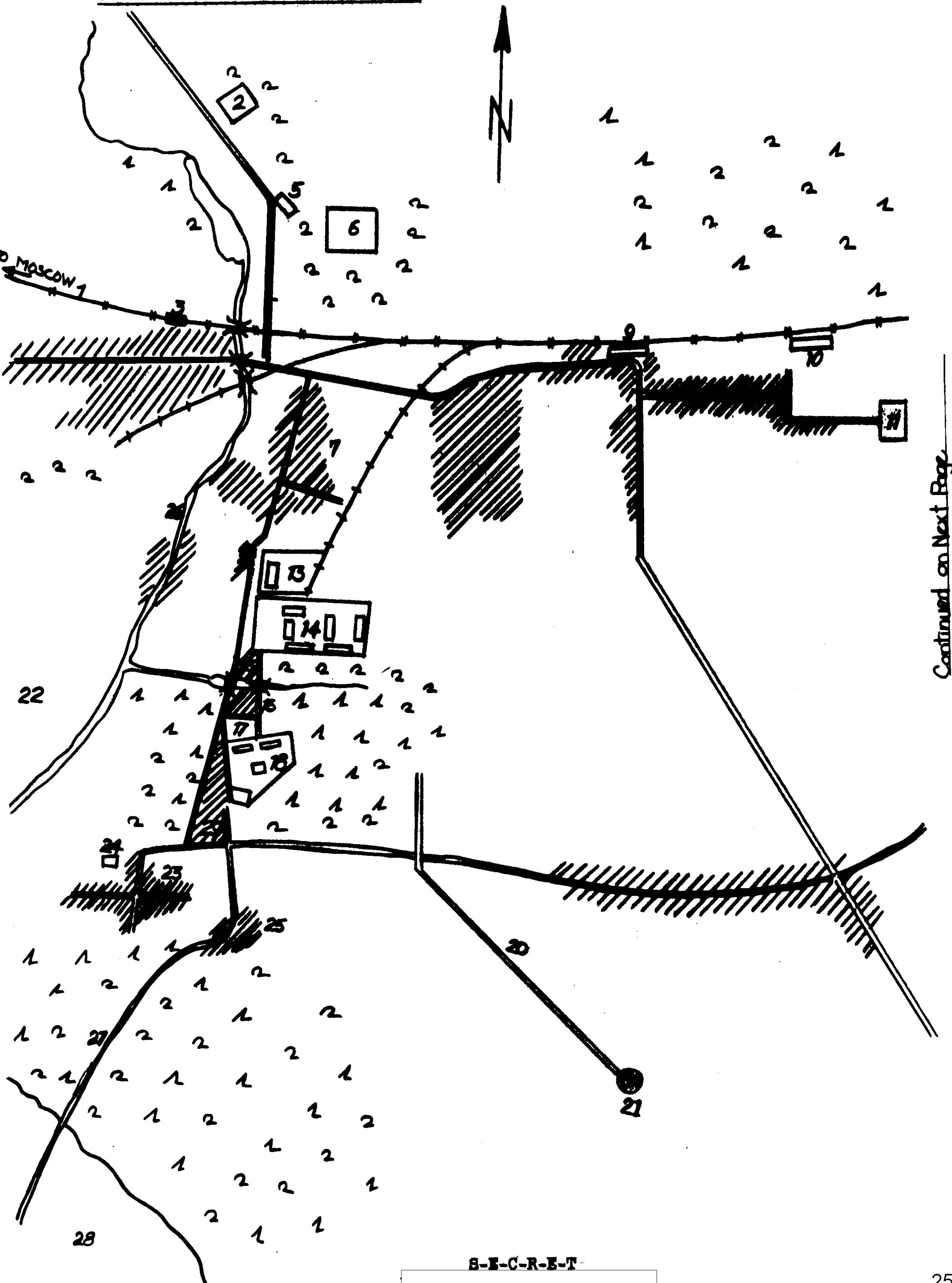
26. Pekhorka River, three meters wide, 20 centimeters deep, slow flowing.

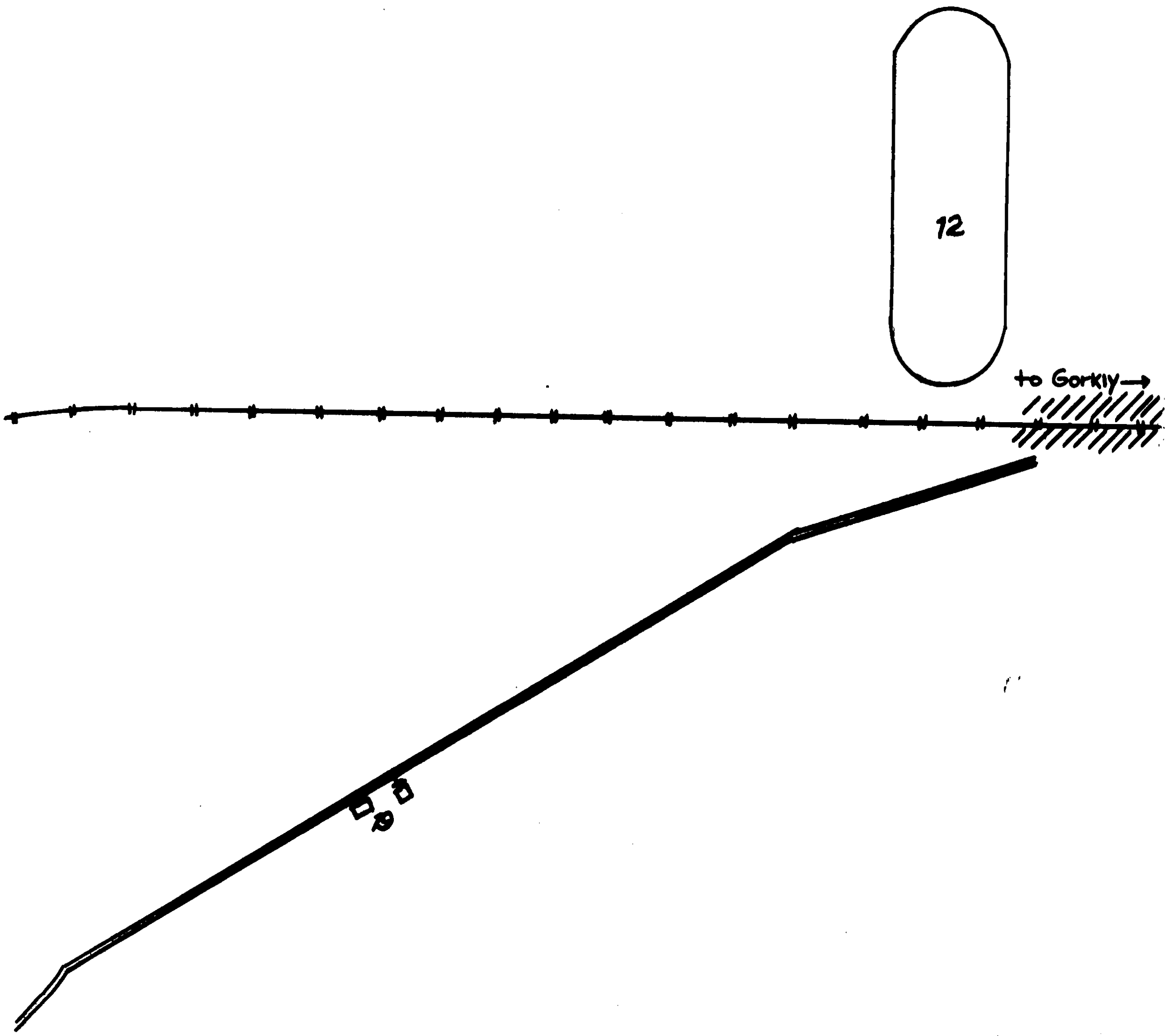
27. Road to Lyubertsy, three meters wide, in medium good condition.

28. Sewage farms; sewage-treatment plant for Moscow.

29. Quarters for employees of Area II and III and for the MGB guard detail.

Location Sketch of MGB Unit 568 K





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Legend for Sketch of Area I

1. Area I is located near an old castle which dates from the time of the Tsars.. The building measures approximately 100 x 100 meters and is fenced in by a three meter-high wall with watchtowers every 10 to 15 meters. The whole surrounding and the area itself is overgrown with tall leafy trees. [redacted] 25X1 25X1 Two buildings overtop the wall.

2. Technological institute for hydraulic engineering, located in the old castle which lies on the slope of a hill.

3. A settlement.

4. Test plants of the technological institute.

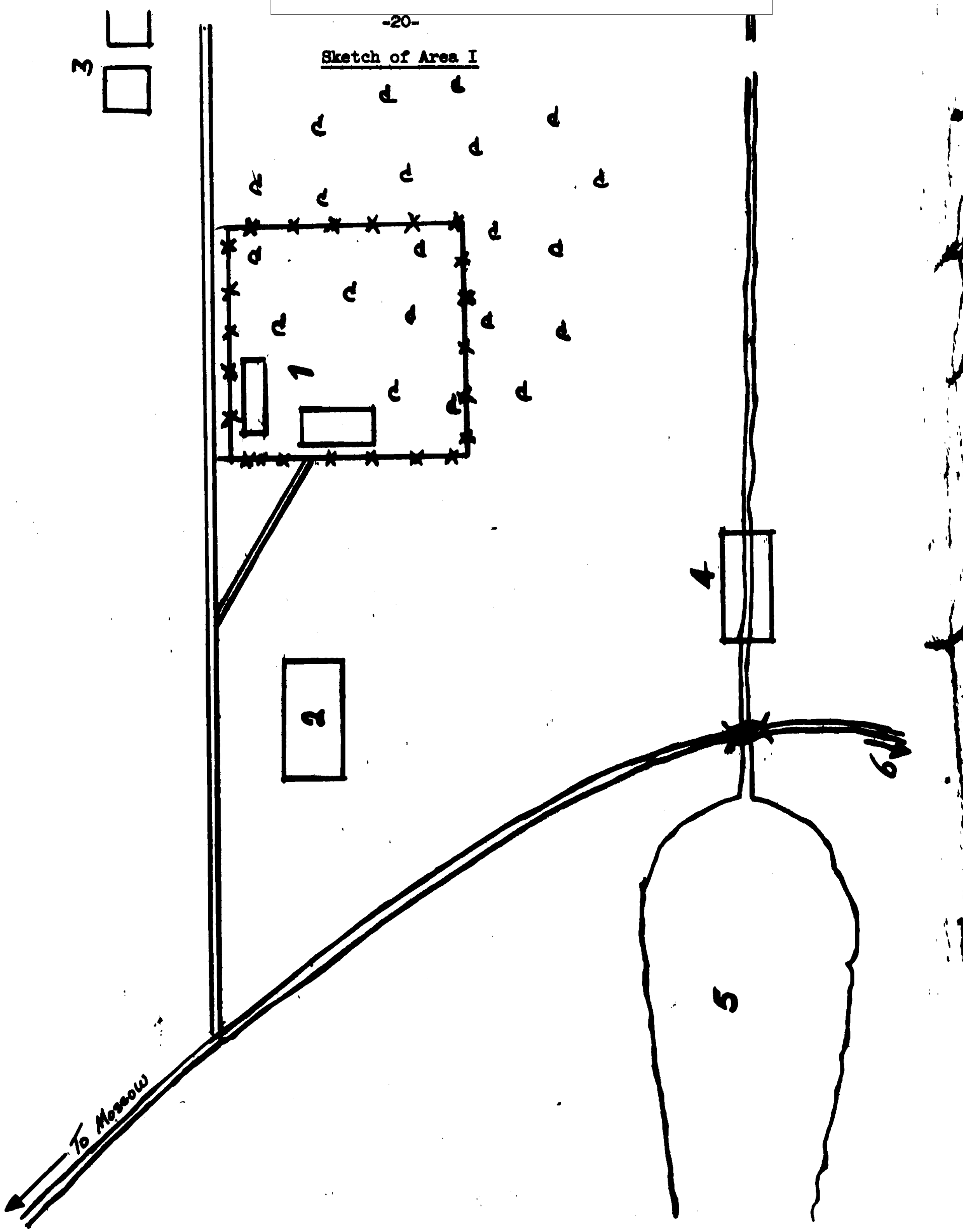
5. Pond.

6. Road to Area II.

S-E-C-R-E-T

25X1

Sketch of Area I



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Legend to Sketch of Area II

1. Area II

    a. Two-story main building, 40 x 30 x 9 meters, with a gable roof covered with sheet metal. The ground floor contained the turning section with three turning lathes and four to five drilling machines operated by two lathe operators; the workshop for approximately ten mechanics, with a cross winding machine (Kreuzwickelmaschine) occupying about five to six mechanics; the welding shop with autogenous welding equipment; and the carpenter shop with a carpenter's bench. The upper floor contained the offices of Colonel Paramonov; a heavily bolted room for records and drawings, into which only one person could enter; a large laboratory, in which about five engineers and technicians worked and which was furnished only with simple tables; a laboratory, converted into a work room for the German engineers; and a laboratory, converted into a storage room. In these three rooms, the apparatus for the Krug direction finder were developed, measured, balanced, and tested until spring 1950. The apparatus were constructed in the basement workshop. In another small room, individual parts and materials from Oberspreewerk were stored.

    b. One-story stone building, 20 x 15 x 5 meters, gable roof covered with sheet metal. One room served as a laboratory, the other room as a workshop. The latter was very primitive; it was equipped for two mechanics and contained a lathe and a drill.

    c. One-story stone building, 20 x 12 x 6 meters. Unoccupied.

    d. One-story stone building with two or three garages and a boiler installation for heating and hot water supply.

    e. A one-story stone warehouse with a gable roof covered with sheet metal. The house is plastered and painted white. Size: 35 x 10 x 6 meters, including the roof. The warehouse contained tubes, solid materials (Vollmaterial), variegated materials (Buntmaterial), aluminum, lubricants, tools, plywood plates, and winter clothing.

    f. One-story stone prison; the building was always locked.

    g. Brick watertower, twenty meters high, 6 meters radius, supplied Area II and lodgings.

2. Quarters for the guard detail.

    a. Quarters of Colonel Paramonov. One-story wooden house with four rooms.

    b. Quarters for one mechanic and a cleaning woman.

    c. Quarters of Professor Cherdanzev and a bus driver.

    d. Quarters for ten MGB guards.

3. Summer home of Colonel Zhelezov with a farm building.

4. Summer home of Colonel Birgelson and chief engineer Vasilev (fnu).

5. Quarters for a bookkeeper of Military Unit 568 K.

6. Quarters for the German engineers and Soviet carpenter Smirnov, who worked in Area I.

7. Finnish-type house, laboratory of the German engineers from beginning 1948 until 1950.

8. Quarters of a guard.

9. Open-air transformer plant.

10. Small farm with stables. A sign indicated that it was a macaroni factory.

11. Empty shed.

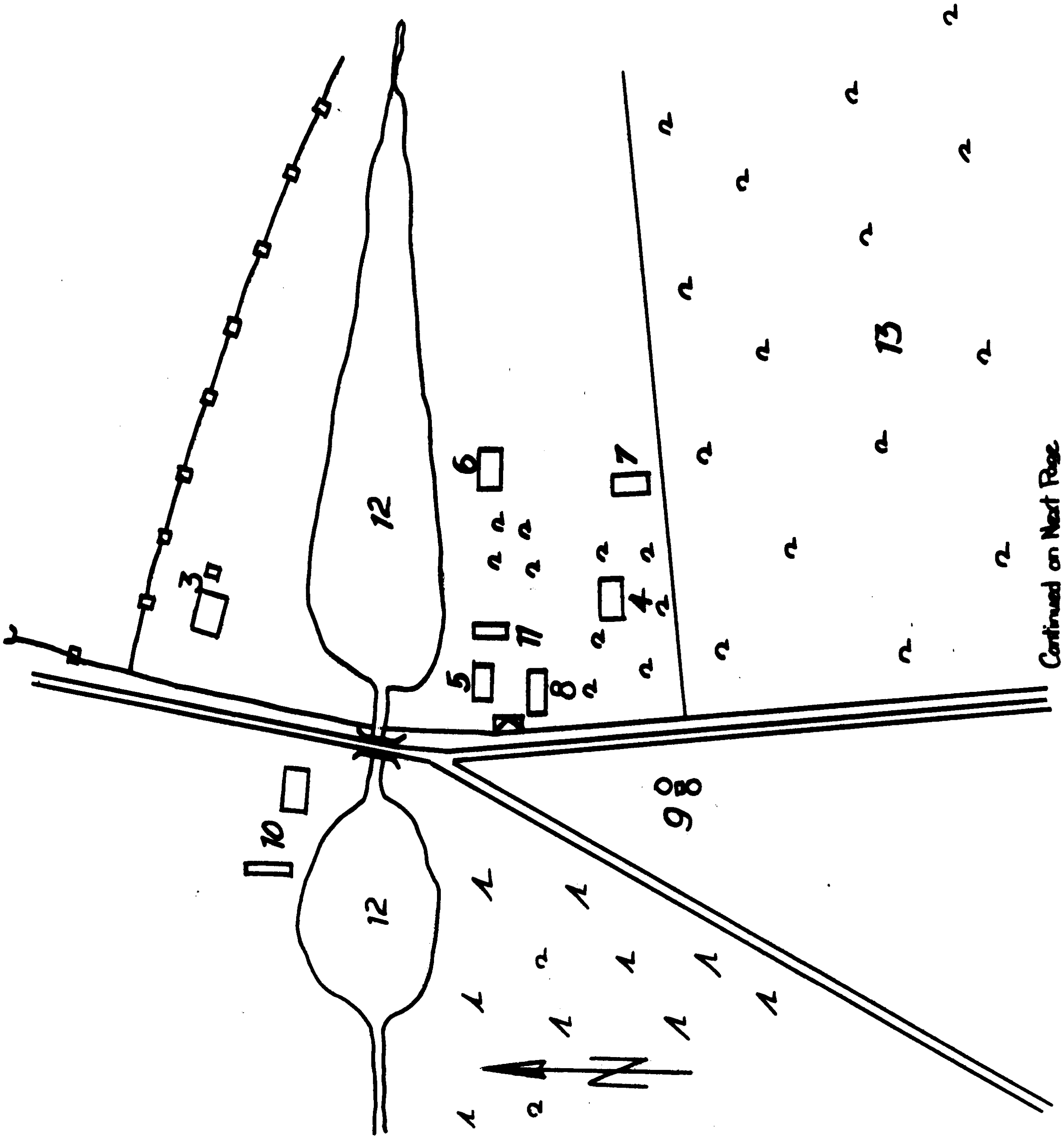
12. Ponds.

13. Orchard, 200 x 120 meters.

S-E-C-R-E-T

25X1

Layout Sketch of Area II



S-E-C-R-E-T

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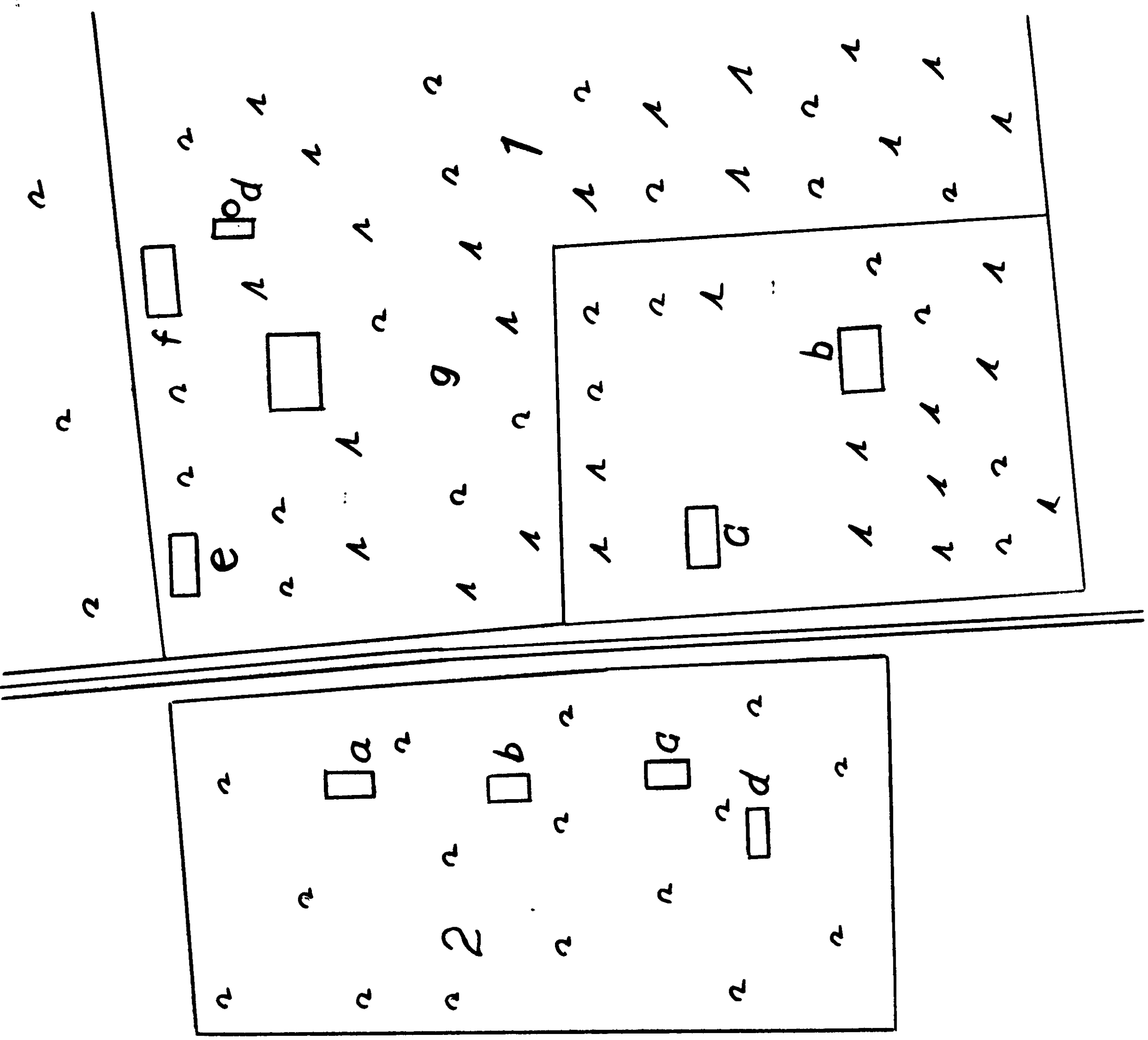

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Legend to Sketch of Area III

The construction of Area III was begun in spring 1950. In November 1951, some members of Colonel Paramonov's group moved into several rooms. In spring 1952, two busses with fifteen persons each, arrived at Area III; among them were engineers, turners, mechanics, etc. The area was fenced in by a 2.5 meter-high wall as soon as construction work began.

1. Large one-story building, 60 x 25 x 6 meters, gable roof covered with sheet metal, supposedly an administration building.

2. Two one-story buildings, 50 x 20 x 9 meters.

3. One-story stone workshops, flat roof, 40 x 15 x 5 meters.

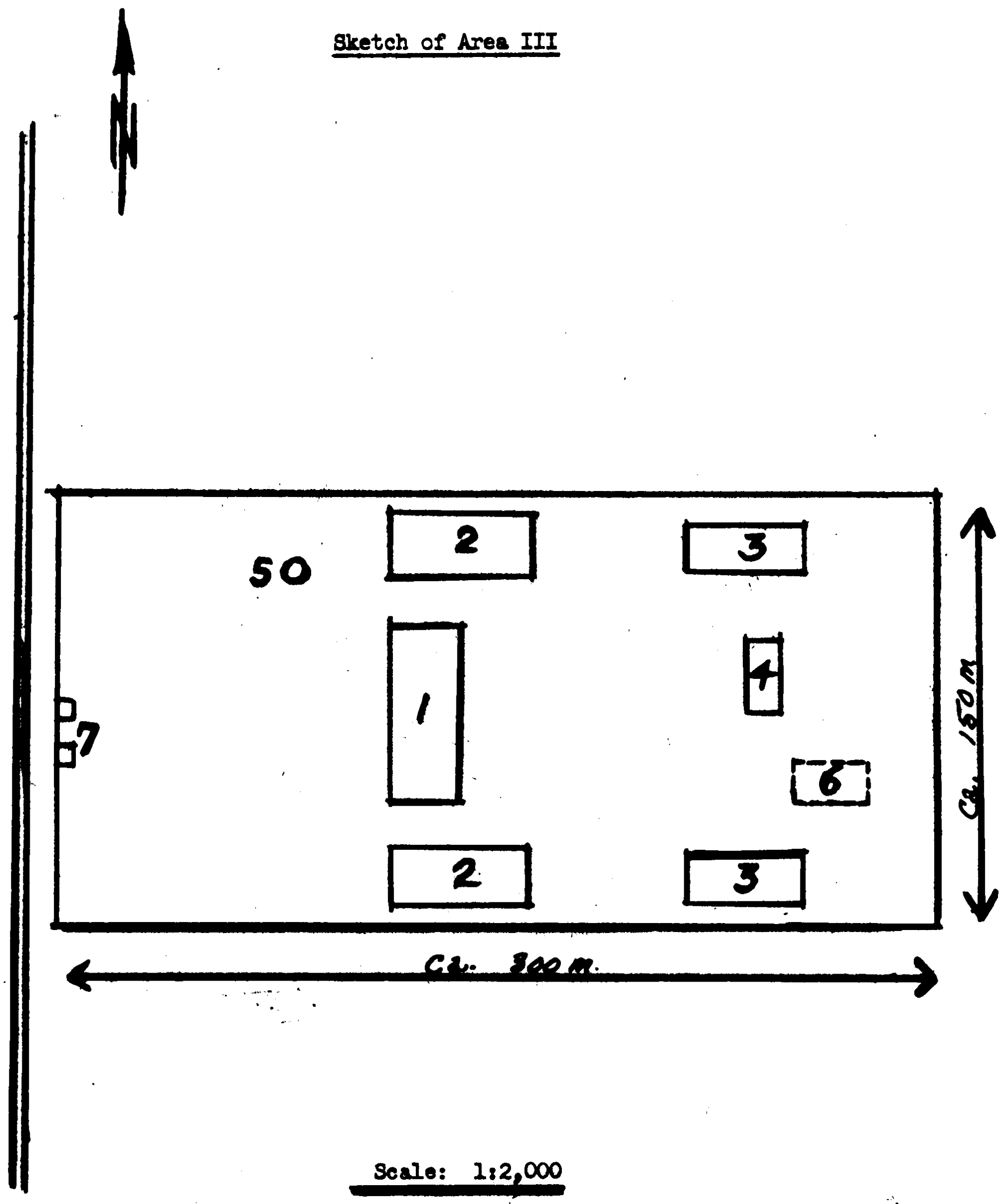
4. Small building.

5. Watertower, 15 meters high. Source does not remember whether it was a stone building or not. On top of the tower was a circular walk with railing 1.5 meters wide. This walk was quite suitable for antenna tests.

6. Under construction.

7. Gate.

Sketch of Area III



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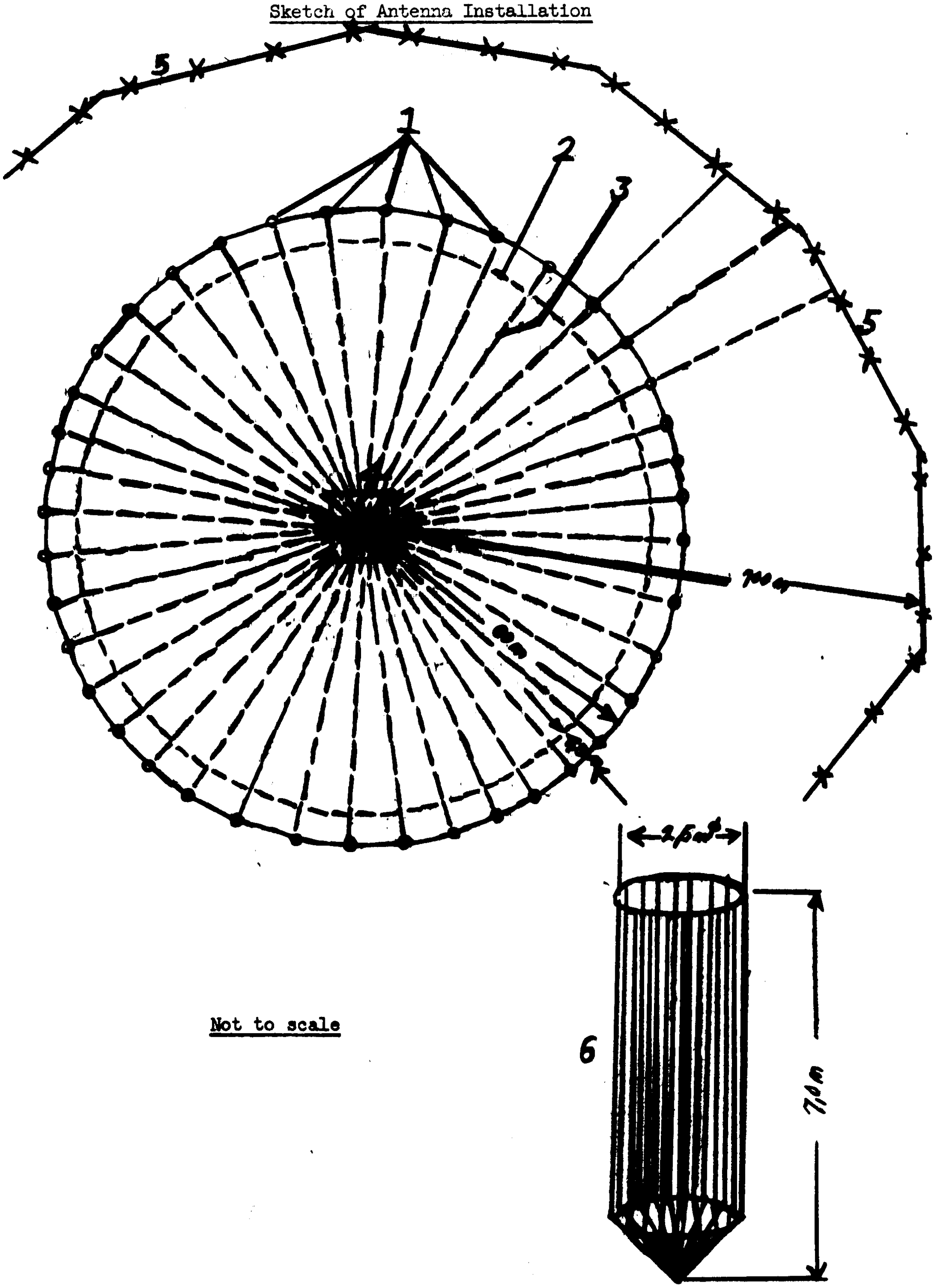
Legend to Sketch of the Antenna Installation

1. Forty cage antennas, arranged around a circle with a 60 meter radius.
2. Antenna reflector.
3. Coaxial cable.
4. Broadcasting station.
5. Fence.
6. Sketch of a single cage antenna.

Sketch of Antenna Installation



Not to scale

Legend for Sketch A and B on Following Page:

A. Audio Direction Finding Installation

1. Forty cage antennas, of which two groups with six antennas each are used for direction finding at a given time.

2. Circular arrangement of the cable heads of the forty cables leading to the antennas.

3. Two transit circuits attached to a rotor, to which the antenna current is transmitted by a capacity coupling. From here the power goes over two slip rings to direction finding receiver.

4. Sum and difference computer, from there to the direction finding receiver.

B. Visual Direction Finding Installation

1-2. The same as above under A.

3. Twelve time circuits, which are connected with the two groups of six antennas each used for direction finding, through a coaxial switch free from reflection.

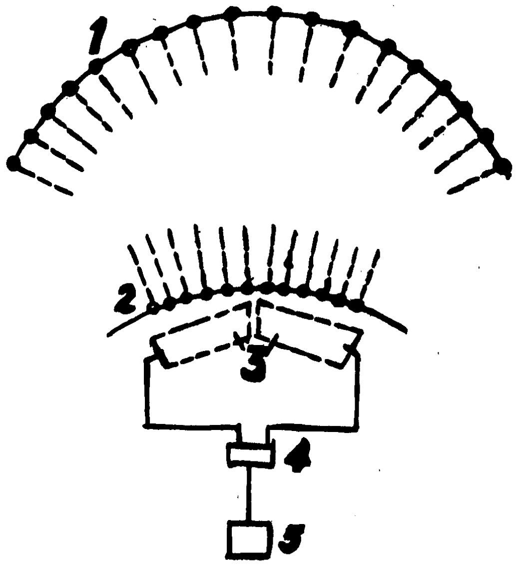
4. So-called "Compilation". A group of six antennas each are connected together free from reflection.

5. Sum and difference computer, which enables the simultaneous notation of the sum and difference potential.

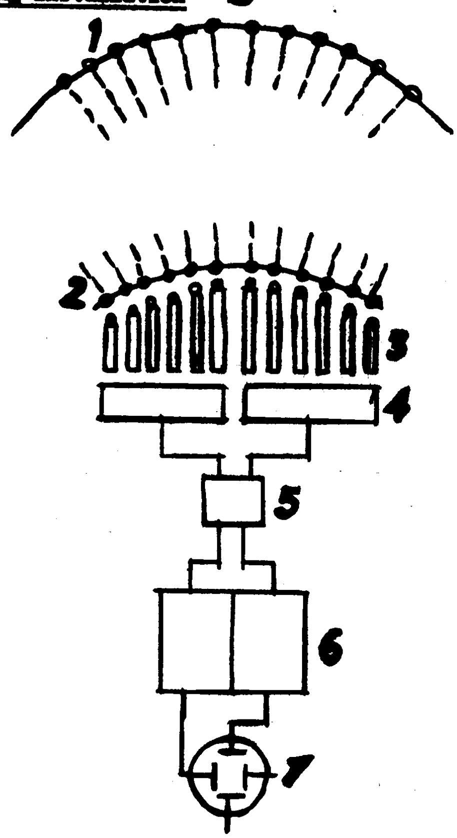
6. Two channel direction finding receivers.

7. Visual indicator (Braun tube).

Audio Direction Finding Installation A



Visual Direction Finding Installation B



Legend to Sketch of Portable Direction Finder

1. Electromagnetic horn, rotating 45 degrees, in front of a parabolic reflector.

2. Tuning.

3. Coaxial cable. Surge impedance of 70 ohms.

4. Antenna and detector tuning circuit.

5. Amplifier section.

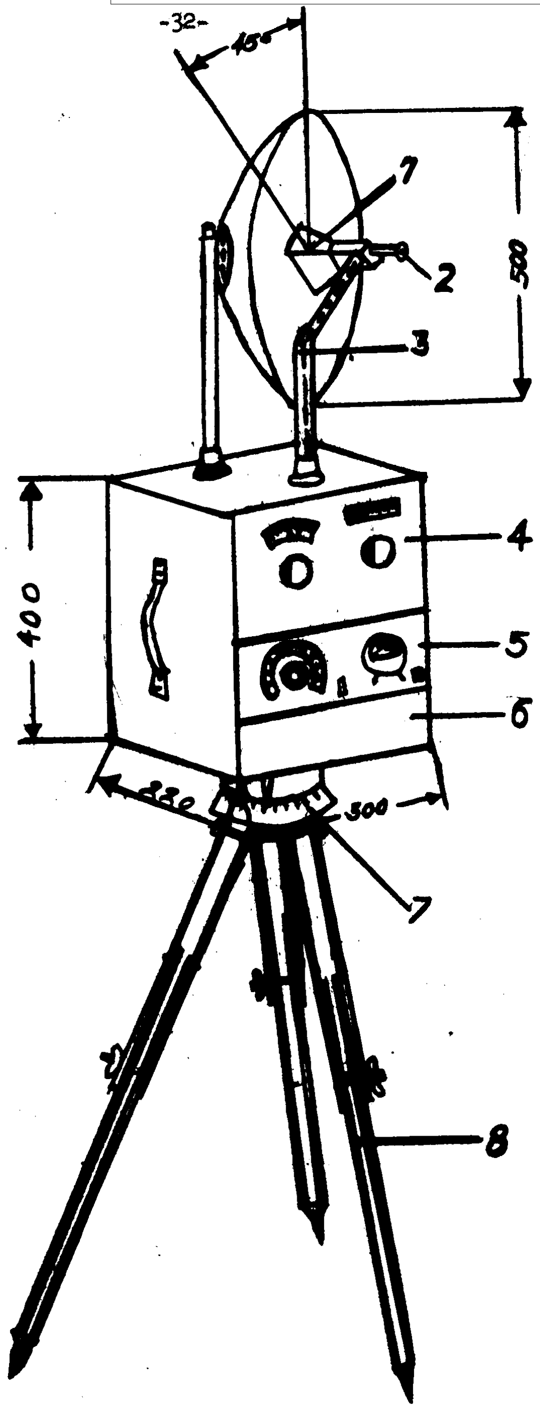
6. Battery section.

7. Rotating scale.

8. Collapsible wooden tripod; 1200 millimeters maximum length.

S-E-C-R-E-T

25X1



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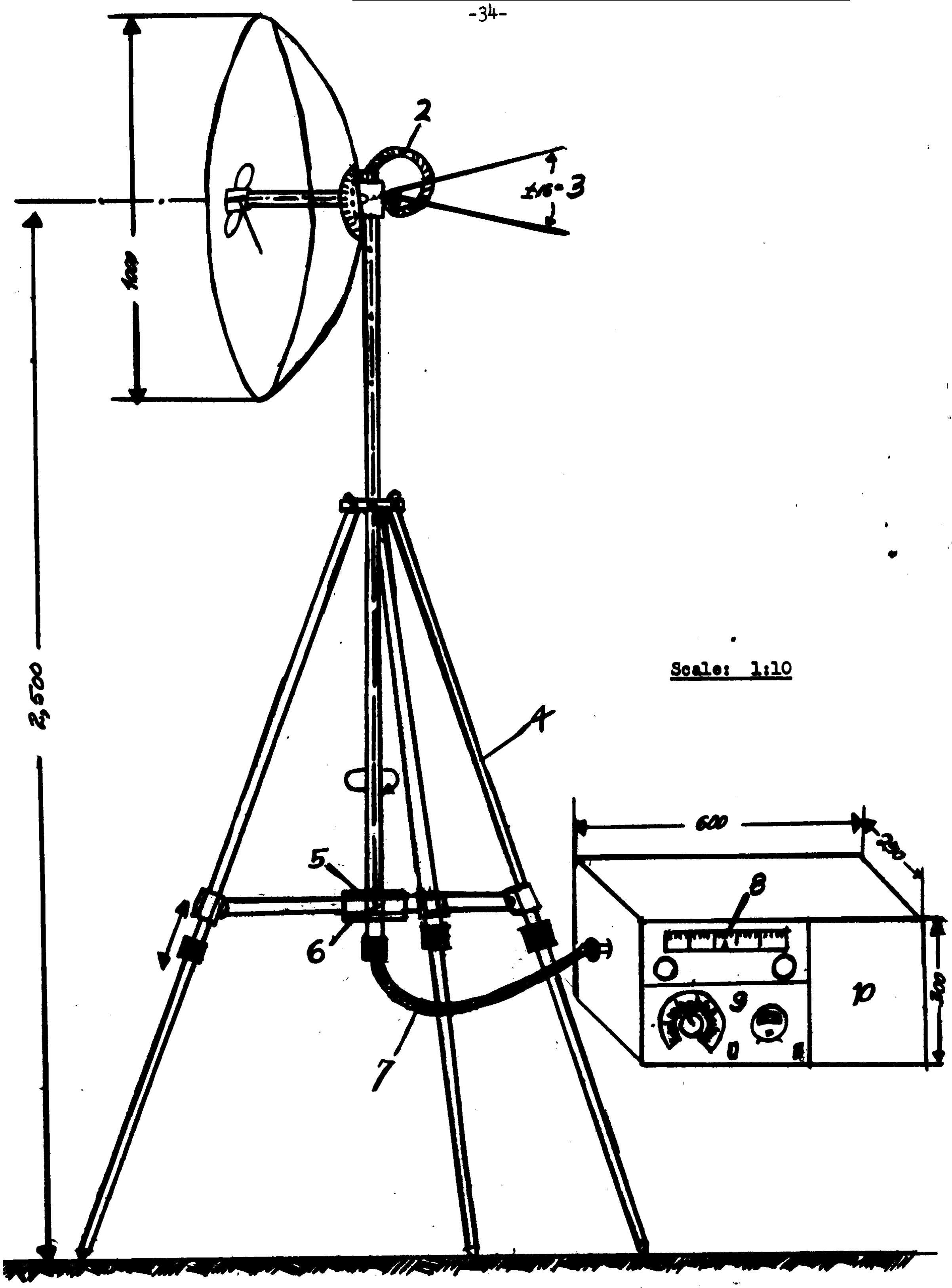
Portable Direction Finder

S-E-C-R-E-T

25X1

Legend to Sketch of DEZI 2-1 D Direction Finder

1. Interchangeable dipole head in the parabolic reflector.
2. Coaxial cable.
3. Field of traverse, plus or minus 15 degrees.
4. Collapsible steal tripod.
5. Scale.
6. Slip ring.
7. Coaxial cable.
8. Antenna and detector tuning circuit.
9. Amplifier section.
10. Battery section.



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DEZI 2-1 D Direction Finder

[redacted] Comment: Note that the names of Vasilev's children and of Col. Birgelson's children, [redacted] are exactly the same. Although these are very common pet names for children, is is surprising that there should be such a coincidence in names, [redacted]

[redacted]